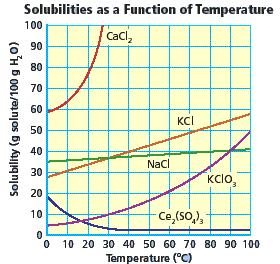
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class/Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Solubility Curve Practice Problems Worksheet 1**

Directions: Use the graph below to answer the following questions. If the question requires a calculation, SHOW ALL WORK TO RECEIVE CREDIT FOR THE ANSWER. No work, no credit, no kidding! Remember units.



**Types of Solutions**

* Points that collectively make up the solubility curve (points ON the curve) represent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solutions.
* Points that are BELOW the curve represent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solutions.
* Points ABOVE the solubility curve represent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solutions, and the **difference** between the point above the curve and on the curve represents the amount of solute which will precipitate out.

1. a. What is the solubility of calcium chloride at 5°C? \_\_\_\_\_\_\_\_\_\_

b. What is the solubility of calcium chloride at 25°C? \_\_\_\_\_\_\_\_\_\_

c. What is happening to the solubility and temperature? Solubility is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as temperature is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. What is this type of relationship called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This occurs for which type of solutes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

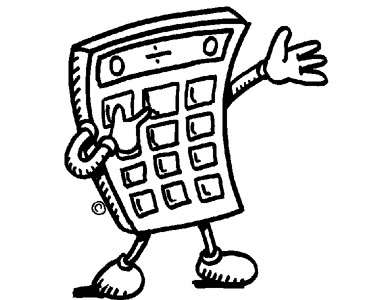
2. a. What is the solubility of cerium sulfate at 10°C? \_\_\_\_\_\_\_\_\_\_

b. What is the solubility of cerium sulfate at 50°C? \_\_\_\_\_\_\_\_\_\_

c. What is happening to the solubility and temperature? Solubility is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as temperature is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. What is this type of relationship called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This occurs for which type of solutes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. What is the mass of cesium sulfate that will dissolve in 50. g of water at 10°C? \_\_\_\_\_\_\_\_\_\_



4. What is the mass of potassium chloride that will dissolve in 250.0 g of water at 70°C? \_\_\_\_\_\_\_\_\_\_

5. a. At 90°C, 10 g of potassium chlorate is dissolved in 100. g of water. Is this solution saturated, unsaturated, or supersaturated? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. How do you know?

6. A saturated solution of potassium chlorate is dissolved in 100. g of water. If the saturated solution is cooled from 90°C to 60°C, how many grams of precipitate will be formed? \_\_\_\_\_\_\_\_\_\_

7. Which substance on the graph is **least** soluble at 10°C? \_\_\_\_\_\_\_\_\_\_

8. Which substance on the graph shows the **least** change in solubility from 0°C to 100°C? \_\_\_\_\_\_\_\_\_\_

9. What mass of 10°C water will dissolve 350.0 g of potassium chloride to form a saturated solution?

\_\_\_\_\_\_\_\_\_\_